

FIGURE 1

1	ATGTCAGTGGGAGCCATGAAGAAGGGAGTGGGAGGGCAGTTGGCTTGGAGGGCGCAGC	60
61	GGCTGCCAGGCTACGGAGGAAGACCCCTTCCGACTGCGGGGCTTGGCTCCGGGACAA	120
121	GGTGGCAGGCGCTGGAGGCTGCCGAGCCTGCGTGGGTGGAGGGAGCTCAGCTCGGTTG	180
181	TGGGAGCAGGCGGACCGGCACCTGGCTGGATGGACCTGGAAGCCTCGCTGCTGCCACCTGGT	240
241	CCCAATGCCAGCAACACCTCTGATGGCCCCGATAACCTCACTTCAGCAGGATCACCTCCT	300
301	CGCACGGGAGCATCTCCTACATCAACATCATATGCCCTTCGGTGTTCGGCACCATCTGC	360
361	CTCCTGGGCATCATCGGGAACCTCCACGGTCATCTTCGCGGTCTGTAAGAAGTCCAAAGCTG	420
421	CACCTGGTGCAACAACGTCCTCCGACATCTTCATCATCAACCTCTCGGTAGTAGATCTCCTC	480
481	TTTCTCCTGGGCATGCCCTTCATGATCCACAGCTCATGGGCAATGGGGTGTGGCACCTTT	540
541	GGGAGACCATGTGCACCCCTCATCACGGCCATGGATGCCAATAGTCAGTTCAACAGCACCC	600
601	TACATCCTGACCGCCATGGCCATTGACCGCTACCTGGCCACTGTCCACCCCATCTCTCC	660
661	ACGAAGTTCCGGGAAGCCCTCTGTGGCCACCCCTGGTGATCGCCTCCTGTGGGCCCTCTCC	720
721	TTCATCAGCATCACCCCTGTGTGGCTGTATGCCAGACTCATCCCCCTTCCCAGGAGGTGCA	780
781	GTGGGCTGCGGCATACGCTGCCCAACCCAGACACTGACCTCTACTGGTTCACCCCTGTAC	840
841	CAGTTTTCCTGGCCTTTGCCCTGCCCTTTGTGGTCATCACAGCCGCATACGTGAGGATC	900
901	CTGCAGCGCATGACGTCCTCAGTGGCCCCCGCCTCCAGGCGAGCATCCGGCTGCGGACA	960
961	AAGAGGTGACCCGCACAGCCATCGCCATCTGTCTGGTCTTCTTTGTGTGGTGGGCACCC	1020
1021	TACTATGTGTACAGCTGACCCAGTTGTCCATCAGCCGCCCGACCCCTCACCTTTGTCTAC	1080
1081	TTATACAATGGGGCCATCAGCTTGGGCTATGCCAACAGCTGCCCAACCCCTTTGTGTAC	1140
1141	ATCGTGCTCTGTGAGACGTTCCGCACAACGCTTGGTCTGTGCGGTGAAGCCTGCAGCCCCAG	1200
1201	GGGCAGCTTCGGGCTGTACGAACGCTCAGACGGCTGACGAGGAGGAGGACAGAAAGCAAA	1260
1261	GGCACCTGA	1269

FIGURE 2

1	M	S	V	G	A	M	K	K	G	V	G	R	A	V	G	L	G	G	G	S	20
21	G	C	Q	A	T	E	E	D	P	L	P	D	C	G	A	C	A	P	G	Q	40
41	G	G	R	R	W	R	L	P	Q	P	A	W	V	E	G	S	S	A	R	L	60
61	W	E	Q	A	T	G	T	G	W	M	D	L	E	A	S	L	L	P	T	G	80
81	P	N	A	S	N	T	S	D	G	P	D	N	L	T	S	A	G	S	P	P	100
101	R	T	G	S	I	S	Y	I	N	I	I	M	P	S	V	F	G	T	I	C	120
121	L	L	G	I	I	G	N	S	T	V	I	F	A	V	V	K	K	S	K	L	140
141	H	W	C	N	N	V	P	D	I	F	I	I	N	L	S	V	V	D	L	L	160
161	F	L	L	G	M	P	F	M	I	H	Q	L	M	G	N	G	V	W	H	F	180
181	G	E	T	M	C	T	L	I	T	A	M	D	A	N	S	Q	F	T	S	T	200
201	Y	I	L	T	A	M	A	I	D	R	Y	L	A	T	V	H	P	I	S	S	220
221	T	K	F	R	K	P	S	V	A	T	L	V	I	C	L	L	W	A	L	S	240
241	F	I	S	I	T	P	V	W	L	Y	A	R	L	I	P	F	P	G	G	A	260
261	V	G	C	G	I	R	L	P	N	P	D	T	D	L	Y	W	F	T	L	Y	280
281	Q	F	F	L	A	F	A	L	P	F	V	V	I	T	A	A	Y	V	R	I	300
301	L	Q	R	M	T	S	A	V	A	P	A	S	Q	R	S	I	R	L	R	T	320
321	K	R	V	T	R	T	A	I	A	I	C	L	V	F	F	V	C	W	A	P	340
341	Y	Y	V	L	Q	L	T	Q	L	S	I	S	R	P	T	L	T	F	V	Y	360
361	L	Y	N	A	A	I	S	L	G	R	L	V	L	S	E	R	P	F	A	Q	380
381	I	V	L	C	E	T	F	R	K	Q	T	A	D	E	E	R	T	E	S	K	400
401	G	Q	L	R	A	V	S	N	A	Q	T	A	D	E	E	R	T	E	S	K	420
421	G	T																			422

100250 024500

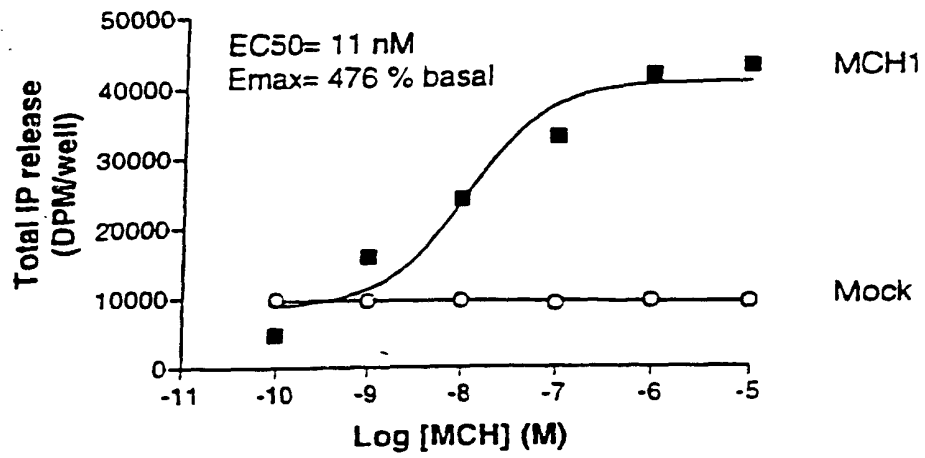
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21	G C Q A T E E D P L P D C G A C A P G Q	40
41	G G R R W R L P Q P A W V E G S S A R L	60
61	W E Q A T G T G W M D L E A S L L P T G	80
81	P N A S N T S D G P D N L T S A G S P P	100
101	R T G S I S Y I N <u>I I M P S V F G T I C</u>	120
121	<u>I L L I G N S T V I F A V V K K S K L</u>	140
141	H W C N N V P D <u>I F I I N L S V V D L L</u>	160
161	<u>F L L G M P F M I H Q L M G N G V W H F</u>	180
181	G E T M C T L I T A M D <u>A N S O F T S T</u>	200
201	<u>III Y I L T A M A I D R Y L A T V H P I S S</u>	220
221	T K F R K P S <u>V A T L V I C L L W A L S</u>	240
241	<u>IV F I S I T P V W L Y A R L I P F P G G A</u>	260
261	<u>V G C G I R L P N P D T D L Y W F T L Y</u>	280
281	<u>Q E F L A F A L P F V V I T A A Y V R I</u>	300
301	L Q R M T S S V A P A S Q R S I R L R T	320
321	K R <u>VI V T R T A I A I C L V F F V C W A P</u>	340
341	<u>V Y V L O L T O L S I S R P T L T F V Y</u>	360
361	<u>VII L Y N A A I S L G Y A N S C L N P F V Y</u>	380
381	<u>I V L C E T F R K R L V L S V K P A A Q</u>	400
401	G Q L R A V S N A Q T A D E E R T E S K	420
421	G T	422

1	GCAGCGACCTGCACCGGCTGCATGGATCTGC	AAACCTCGTTGCTGTCACCTGGCCCCAA	60
61	TGCCAGCAACATCTCCGATGGCCAGGATAATC	TACATTCACATTGCCGGGTACCTCCTCGCAC	120
121	AGGGAGTGTCTCTACATCAACATCATTAATGC	CTTCCGTGTTTGGTACCATCTGTCTCCT	180
181	GGGCATCGTGGGAAACTCCACGGTCACTTTGCT	GTTGCTGGTGAAGAAGTCCAAGCTACACTG	240
241	GTGCAGCAACGTCCCCGACATCTTCAATCATCA	ACCTCTCTGTGGTGGATCTGCTCTTCTCT	300
301	GCTGGGCATGCGCTTTCATGATCCACACGCTCA	TGGGAAACGGCGTCTGGCACCTTTGGGGA	360
361	AACCATGTGCACCCCTCATCACAGCCATGGAC	CGCCAAACAGTCAAGTTCACATAGCACCTACAT	420
421	CCTGACTGCCATGACCATTTGACCGCTACTTT	GGCCACCCGTCCACCCCATCTCCTCCACCAA	480
481	GTTCGGGAAGCCCTCCATGGCCACCCCTGGTG	ATCTGCGCTCCTGTGGCGCTCTCCTTCAT	540
541	CAGTATCACCCCTGTGTGGCTCTACGCCAGGC	TCAATCCCTTCCACAGGGGTGCTGTGGG	600
601	CTGTGGCATCCGCCTGCCAAACCCGGACACTG	ACCTCTACTGGTTCACTCTGTACCAGTT	660
661	TTTCTCGCCCTTTGCCCTTCCGTTTGTGGTCA	TATTACCGCCGCATACGTGAANAATACTACA	720
721	GCGCATGACGCTTTCGGTGGCCCCAGCCCTCC	CAACGCAGCATCCGGCTTCGGACACAAGAG	780
781	GGTGACCCGCACGGCCATTGCCATCTGTCTGT	GTCTTCTTTGTGTGCTGGGCACCCCTACTA	840
841	TGTGCTGCAGCTGACCCAGCTGTCCATCAGCC	CGCCGACCCCTCACGTTTGTCTACTTTGTA	900
901	CACGCGGCCCATCAGCTTGGGCTATGCTTACA	AGCTGCCTGAACCCCTTTGTGTACATATG	960
961	GCTCTGTGAGACCTTTCGAAACGCTTGGTGTT	GTGTCAGTGAAGCCTGCAGCCCCAGGGGCA	1020
1021	GCTCCGCACGGTCAGCAACGCTCAGACAGCTG	ATGAGGAGGACAGAAAGCAAAAGGCAC	1080
1081	CTGACAATTTCCCCAGTCGCCCTCCAAGTCAG	GCCACCCCATCAAAACCGTGGGGAGAGATAC	1140
1141	TGAGATTAAACCCNAGGCTACCCCTGGGAGAT	GCAGAGGCTGGAGGCTGGGGGCTTGTAG	1200
1201	CAACCACATTCCAC		1214

1	M	D	L	Q	T	S	L	L	S	T	G	P	R	N	A	S	N	V	I	S	D	G	20
21	Q	D	N	L	T	L	P	G	S	P	P	R	N	T	G	S	V	I	S	Y	I	N	40
41	I	I	M	P	S	V	F	G	T	I	C	L	H	L	C	I	N	V	G	N	S	D	60
61	V	I	F	A	V	V	K	V	S	D	L	L	F	L	L	S	M	F	F	M	I	I	80
81	F	I	I	N	L	S	G	V	N	S	H	F	G	E	T	M	C	T	F	L	I	T	100
101	H	Q	L	M	G	N	Q	V	F	T	S	T	Y	I	L	T	A	M	P	T	I	D	120
121	A	M	D	A	T	C	H	P	I	S	S	T	F	K	F	R	K	P	S	V	M	A	140
141	R	Y	L	V	I	C	L	W	A	L	G	S	F	I	S	I	T	P	V	W	P	L	160
161	T	A	R	T	I	L	P	P	G	G	A	V	Q	F	C	G	I	R	F	L	P	N	180
181	Y	P	P	A	D	I	L	W	F	T	L	K	R	V	F	L	A	F	S	V	A	P	200
201	P	V	V	I	T	A	S	F	V	K	R	I	T	Q	R	M	T	R	S	A	L	P	220
221	F	V	S	I	R	F	A	I	V	L	R	A	P	Y	N	L	A	C	E	T	V	S	240
241	P	A	S	Q	R	F	S	I	V	L	R	A	P	Y	N	L	A	C	E	T	V	S	260
261	I	C	L	V	F	F	T	L	N	K	R	A	P	Y	N	L	A	C	E	T	V	S	280
281	S	I	S	R	P	C	S	E	R	T	A	S	T	Y	N	L	A	C	E	T	V	S	300
301	Y	A	N	S	L	V	E	R	T	A	S	T	Y	N	L	A	C	E	T	V	S	N	320
321	R	L	V	A	D	E	R	T	A	S	T	Y	N	L	A	C	E	T	V	S	N	A	340
341	Q	T	A	D	E	R	T	A	S	T	Y	N	L	A	C	E	T	V	S	N	A	K	354

FIGURE 6

**IP release in MCH1- and
mock-transfected Cos-7 cells**



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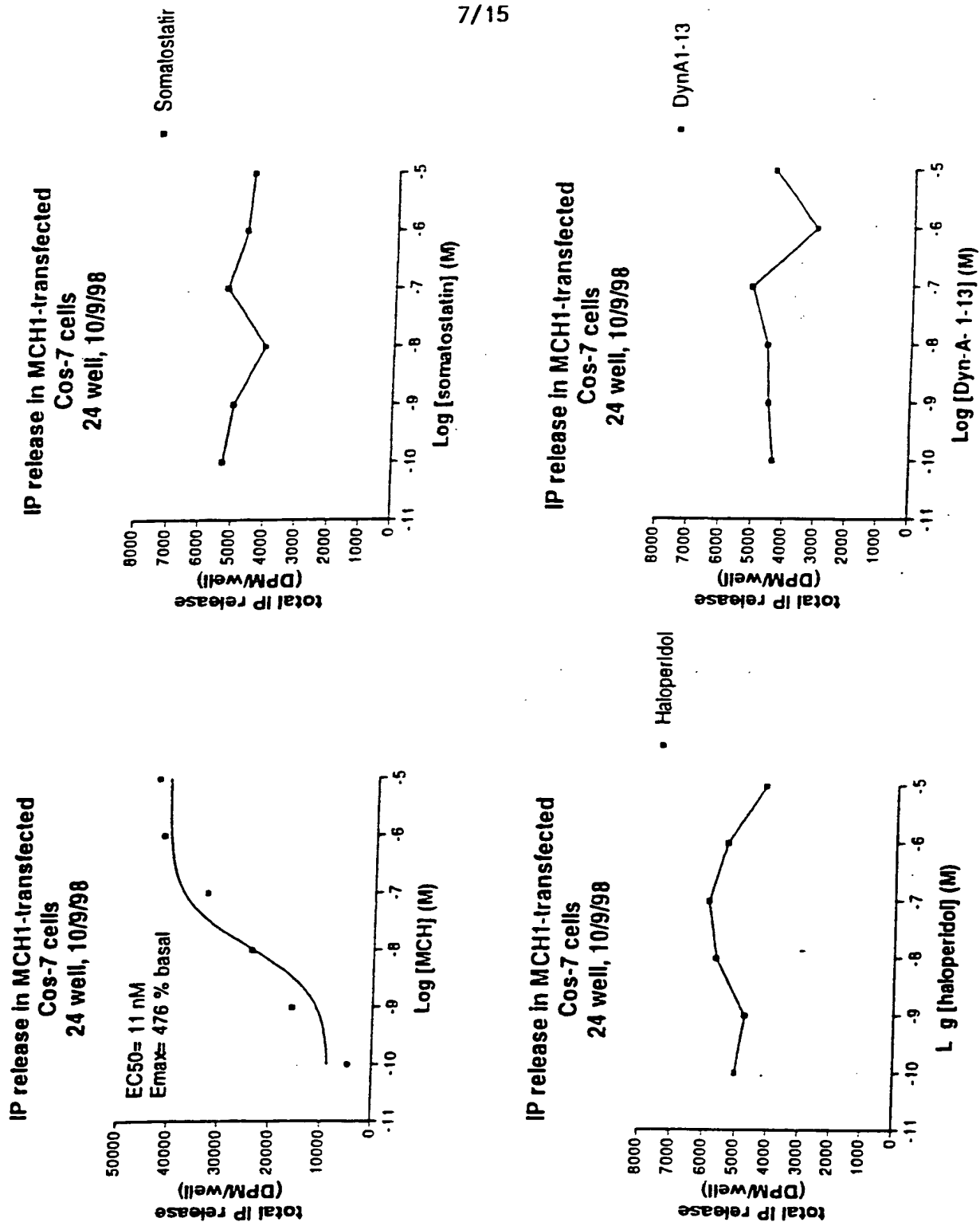


FIGURE 7

Microphysiometer Response
CHO cells

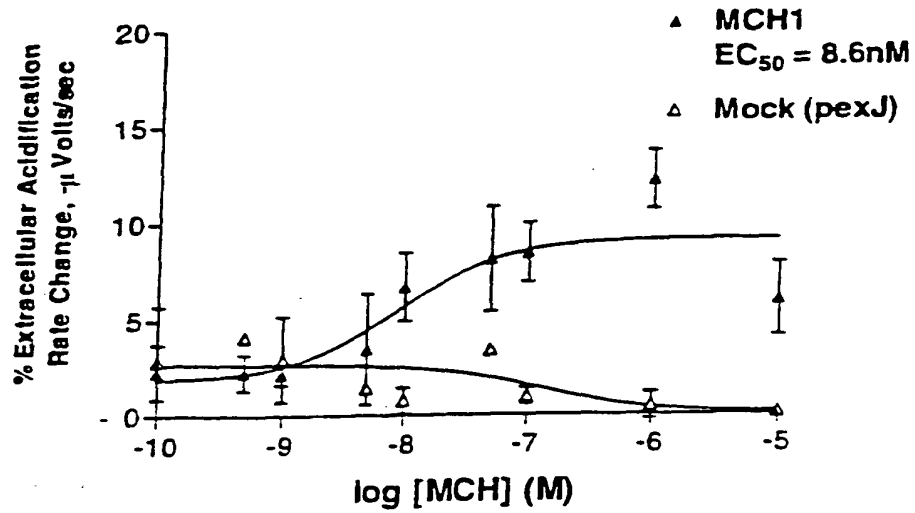
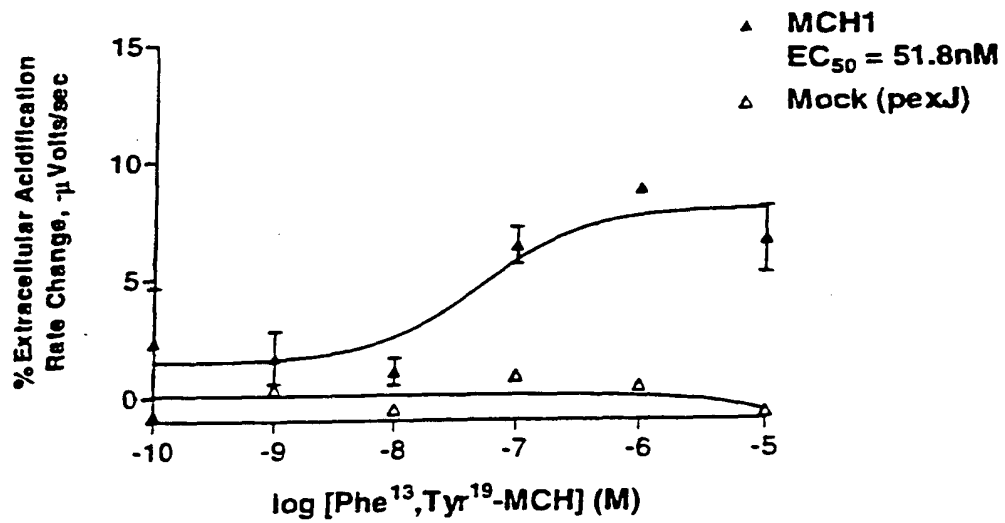


FIGURE 8

Microphysiometer Response
CHO cells



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FIGURE 9

Agonist-Mediated c-fos- β -gal
Activity in Cos-7 Cells

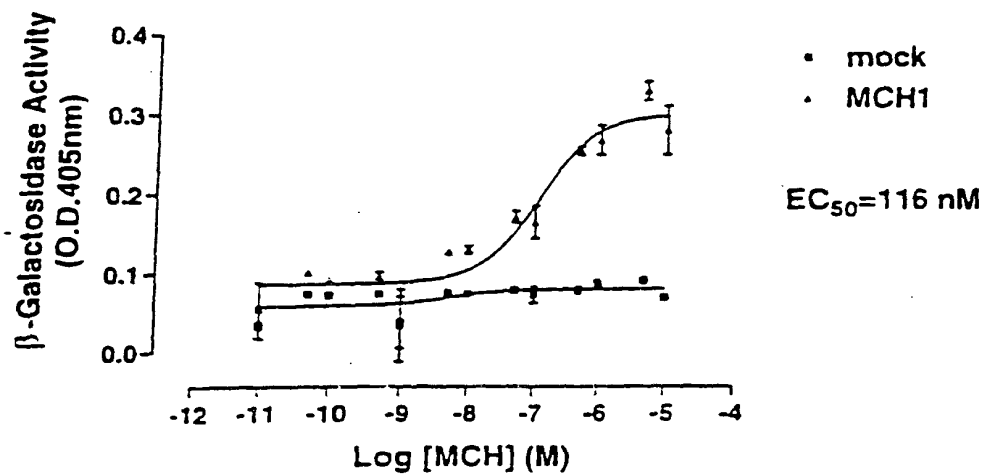
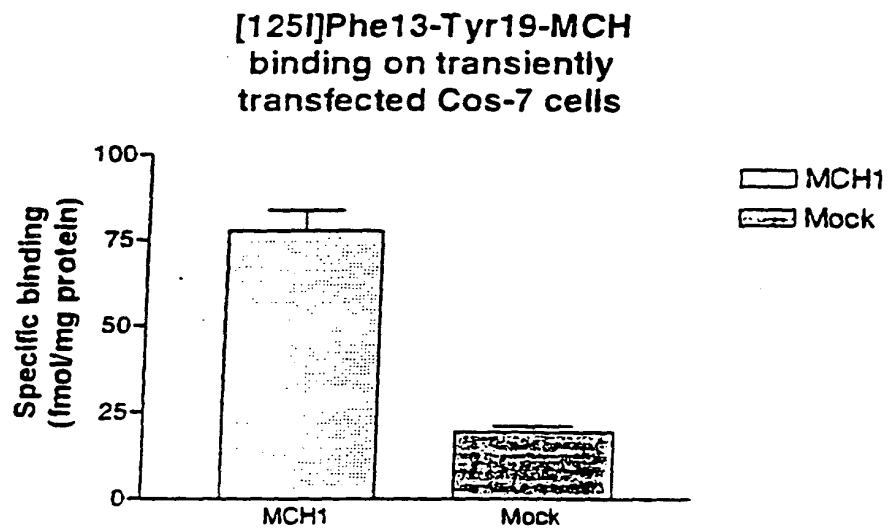
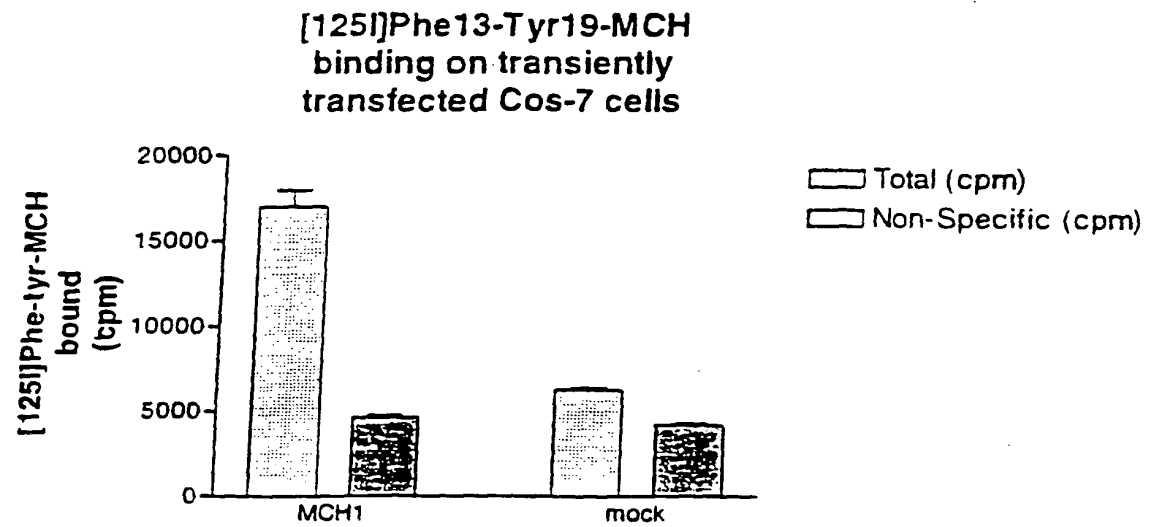
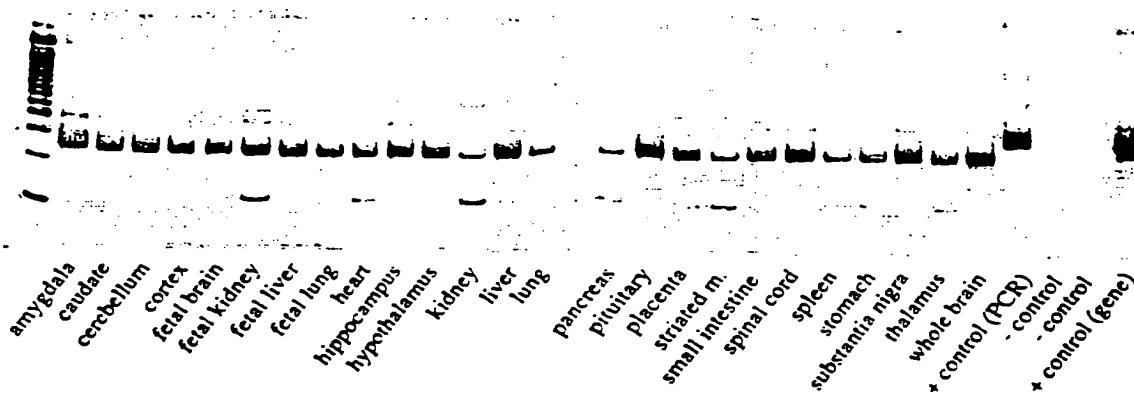


FIGURE 10



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FIGURE 11



	1			40
TL231	MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ
R106	MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ
R114	MSVGAaKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ
BO120	~~~~~	~~~~~	~~~~~	~~~~~
	41			80
TL231	GGRRWRLPQP	AWVEGSSARL	WEQATGTGWM	DLEASLLPTG
R106	GGRRWRLPQP	AWVEGSSARL	WEQATGTGWa	DLEASLLPTG
R114	GGRRWRLPQP	AWVEGSSARL	WEQATGTGWa	DLEASLLPTG
BO120	~~~~~	~~~~~	~~~~~M	DLEASLLPTG
	81	100		
TL231	PNASNTSDGP	DNLTSAGSPP...		
R106	PNASNTSDGP	DNLTSAGSPP...		
R114	PNASNTSDGP	DNLTSAGSPP...		
BO120	PNASNTSDGP	DNLTSAGSPP...		

1	M	S	V	G	A	A	K	K	G	V	G	R	A	V	G	L	G	G	S	20
21	G	C	Q	A	R	E	E	D	P	L	P	D	C	V	E	A	S	R	Q	40
41	G	G	R	A	T	R	L	P	G	P	A	W	V	E	A	S	A	P	L	60
61	W	E	Q	A	N	G	T	G	D	I	D	N	L	L	P	S	P	T	G	80
81	P	N	A	S	T	S	I	I	S	I	I	M	P	S	V	F	G	T	I	100
101	R	T	G	S	I	N	G	N	T	I	I	F	A	V	V	K	K	S	K	120
121	L	L	G	I	N	V	P	I	I	I	I	I	N	L	S	V	V	D	L	140
141	H	W	C	I	N	M	F	M	I	H	Q	L	M	G	N	G	V	W	H	160
161	F	L	L	G	M	C	T	I	T	A	M	D	A	N	S	Q	F	T	S	180
181	G	E	T	M	A	P	L	I	D	R	Y	L	A	T	C	H	P	I	S	200
201	Y	I	L	F	R	K	P	V	A	T	V	L	V	I	L	P	W	A	L	220
221	T	K	F	S	I	P	P	W	L	P	A	R	I	L	P	F	P	G	S	240
241	F	I	C	F	T	R	F	P	L	N	P	V	V	I	T	A	F	T	A	260
261	V	G	F	C	I	R	F	A	L	P	A	V	S	I	L	W	F	L	Y	280
281	Q	F	F	L	A	F	A	S	V	A	P	V	I	R	A	F	V	R	I	300
301	L	Q	R	M	T	S	T	A	I	A	I	S	Q	R	F	I	V	L	P	320
321	K	R	V	T	R	T	I	Q	A	L	C	I	V	F	P	C	T	F	Y	340
341	Y	Y	V	L	Q	A	I	L	G	K	A	S	N	S	L	E	N	V	Y	360
361	L	Y	N	A	E	T	S	R	N	Q	T	V	A	D	E	R	P	A	S	380
381	I	V	L	C	A	V	F	N	A	R	L	A	N	L	S	K	E	A	S	400
401	G	Q	L	R	A	T	S	K	A	Q	T	A	V	D	E	E	T	A	S	420
421	G	T	L	R	A	V	S	N	A	Q	T	A	V	D	E	E	T	A	S	422

1	M	D	L	E	A	S	L	L	P	T	G	P	N	A	S	N	T	S	D	G	20
21	P	D	N	L	T	S	A	G	S	P	P	R	T	G	S	I	S	Y	I	N	40
41	I	I	M	P	S	V	F	G	T	I	C	L	H	G	I	I	G	N	S	T	60
61	V	I	F	A	V	V	K	K	S	D	K	L	W	C	N	N	V	P	D	I	80
81	F	I	I	N	L	S	V	V	V	D	L	L	F	L	G	M	P	F	M	I	100
101	H	Q	L	M	N	G	S	V	W	H	F	G	E	T	M	C	T	L	I	T	120
121	A	M	D	A	N	S	Q	F	T	S	T	Y	I	L	T	A	M	A	I	D	140
141	R	Y	L	D	A	T	V	H	P	I	S	S	T	K	F	R	K	P	S	V	160
161	T	L	V	I	C	L	L	W	A	L	S	F	I	S	I	T	P	V	W	L	180
181	Y	A	R	L	I	P	F	P	G	G	A	V	G	C	G	I	R	L	P	N	200
201	P	D	T	D	L	Y	W	F	T	L	Y	Q	F	F	L	A	F	A	L	P	220
221	F	V	V	I	T	A	A	Y	V	R	I	L	Q	R	M	T	S	S	V	A	240
241	P	A	S	Q	R	S	I	R	L	R	T	K	R	V	T	R	T	A	I	A	260
261	I	C	L	V	F	F	V	C	W	A	P	Y	Y	V	L	Q	A	T	Q	L	280
281	S	I	S	R	P	T	L	T	F	V	Y	Y	Y	N	A	A	I	T	S	L	300
301	Y	A	N	S	C	L	N	P	F	V	Y	I	V	L	C	E	T	F	S	R	320
321	R	L	V	L	S	V	K	P	A	A	Q	G	Q	L	R	A	V	S	N	A	340
341	Q	T	A	D	E	E	R	T	E	S	K	G	T								353

Parameter	Value	Unit
α	0.001	
β	0.001	
γ	0.001	
δ	0.001	
ϵ	0.001	
ζ	0.001	
η	0.001	
θ	0.001	
ι	0.001	
κ	0.001	
λ	0.001	
μ	0.001	
ν	0.001	
ξ	0.001	
\omicron	0.001	
π	0.001	
ρ	0.001	
σ	0.001	
τ	0.001	
υ	0.001	
ϕ	0.001	
χ	0.001	
ψ	0.001	
ω	0.001	
Ω	0.001	
Θ	0.001	
Φ	0.001	
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Π	0.001	
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Ξ	0.001	
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Π	0.001	
Σ	0.001	
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Ξ	0.001	
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Π	0.001	
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